

NASA TECH BRIEF



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Thin Plastic Sheet Eliminates Need for Expensive Plating

The problem:

In axial joints, where a hard and a soft metal are in intimate contact under stress conditions or wherever metal alloys with an affinity for each other are in close stressful contact, fretting will take place with resultant degradation of the joint. Previous corrective measures consisted of plating one or both of the surfaces. This has proven to be both time consuming and expensive.

The solution:

A thin (0.005 inch or less) gasket of a commercially available plastic material is interposed between the mating surfaces. This is found to completely eliminate the fretting problem and is considerably quicker and much less expensive than the plating process.

Notes:

1. Due to the yielding characteristic of the plastic, preload loss is minimized by this technique.

2. This type gasket is presently used in the 50-inch turbine configuration Mark 10 (F-1) turbopump between the fuel impeller and inducer.
3. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B66-10681

Patent status:

No patent action is contemplated by NASA.

Source: R. L. Stremel
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